MENTAL HEALTH EFFECTS ON WORKERS RETURNING TO WORK DURING THE COVID-19 PANDEMIC. AN ANALYSIS OF THE MAQUILADORA INDUSTRY IN NORTHERN MEXICO

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SUMMARY

The aim of this research is to analyze the psychological effects caused by Covid-19 on the workers' readiness to return to work during the current pandemic. A cross-sectional study was designed that explored the perception of fear, work stress, and burnout in a sample of 333 workers belonging to the maquiladora industry in northern Mexico. The perceptions were gathered using a Likert scale survey of 5 points based on previously validated scales. The statistical technique used was the structural equation model (PLS-SEM). The results obtained reflect that the fear of Covid-19 influences directly the presence of stress and burnout in workers. It was demonstrated that burnout influences negatively and significantly the intention to return to work, however, no evidence was found that proves the negative effect of fear of Covid-19 on returning to work. We conclude that the pandemic is an event that affects the occupational health of the maquila workers, and it represents new risks in the performance of work due to workers' exposure. This situation generates fear, stress, and burnout, which finally affects the readiness to return to work, with its subsequent effects in terms of performance.

Introduction

The recent Covid-19 pandemic increased and triggered new cases of depression and anxiety, and an exacerbation of pre-existing mental health problems (Sasangohar *et al*., 2020). Several countries have experienced the highest number of reported daily cases, whilst the rest of the world emerges from lockdown and societies try to go back to a "normal daily life", the truth is that thousands of people may still be infected, and a significant number may die due to the virus (Carroll and Conboy, 2020). Under these circumstances, certain feelings like fear have appeared (Pakpour *et al*., 2020; Monterrosa-Castro, *et al*., 2020), and there is a call

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to research on it, particularly in aspects related to its psychological and psychiatric repercussions (Ornell *et al*., 2020). During this kind of event, people are afraid of getting infected or of infecting others (Brooks *et al*., 2020). This fear causes healthy individuals develop anxiety and stress; and in the case of people with pre-existing conditions, their symptoms are intensified (Shigemura *et al*., 2020; Ornell *et al*., 2020).

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To reduce the exponential increase in infections, governments closed borders, restricted travel, and implemented quarantines (Nicola *et al*., 2020), In Mexico, companies that were considered with non-essential activities were closed, too. Moreover, since person-to-person disease transmission is mostly due to social interactions, schools were closed and people were asked to work from home (D'Angelo *et al*., 2021). This condition affected work routines in organizations. Some companies have reopened their production facilities, implementing measures that include physical distancing and the use of protective equipment; however, the efficiency of such measures is still undetermined, and it is necessary to know the workers' adaptation level to those norms (Shaw *et al*., 2020).

Recent works highlight the need to study the possible adverse effects of Covid-19 on mental health, which include stress, fear, and burnout (Ahorsu, *et al*., 2022). This research analyses whether fear of Covid-19 has a direct and indirect influence upon burnout, through the presence of stress, and whether jointly with those variables, it affects the workers' capability to return to work. The aforementioned, among employees working in the export maquiladora industry located at the Mexican northern border. In that sense, this is innovative research since it analyses the psychological disorders caused by the pandemic in individuals different from the health care sector.

Fear

Beyond individual perceptions and reactions to Covid-19, there is a significant systemic impact that has produced a "national stressor" unlike any other seen in the modern era (Fitzpatrick *et al*., 2020). Similar to previous pandemics, people infected or suspected of Covid-19, may experience emotional reactions or behaviours such as fear, uncertainty, anxiety, and anger. These conditions may cause depression, post-traumatic stress, anxiety, and may even lead to suicide disorders, especially prevalent in people in quarantine (Ornell *et al*., 2020; Shigemura *et al*., 2020).

In this sense, one of the most frequent psychosocial responses when facing epidemics is fear (Eichelberger, 2007; Strong, 1990). Fear is a basic emotion, an adaptive defense mechanism, which turns on to respond to events perceived as threatening When fear becomes chronic, or disproportionate, it becomes harmful and may lead to the development of psychiatric disorders (Ornell *et al*., 2020; Schimmenti *et al*., 2020; Shin and Liberzon, 2010). This emotion implies suspicion: it is feared that a close person is ill and may infect them (Strong, 1990). Besides the fear of infection, there is also a fear to be infected and transmitting the disease to family members or friends. Such uncertainty may increase dysphoric mental states (Ornell *et al*., 2020).

In the context of Covid-19, recent works (Schimmenti *et al*., 2020) state that the fear of disease appears in four domains: bodily (vulnerability, hypervigilance), interpersonal (potential threat), cognitive (knowing/ignoring), and behavioral (resulting from impact in the other domains). Regarding these domains, in the first one, there are fears associated with physical vulnerability because the body may become a potential source of danger, and therefore the individual undertakes hypervigilance actions to identify changes that may suggest the infection with Covid-19.

This domain also includes the perception of the body as a treasure that needs to be cared for, and therefore it is valued in terms of survival. Regarding the interpersonal domain, as a consequence of recommendations related to social distancing, individuals perceive themselves as a source of threat to their loved ones, and vice versa. In the cognitive domain, there are some contradictions, because on the one hand, the need to know or fear of not knowing rapidly alternates with the need of not knowing or fear of knowing, and all this may interfere with our decision-making. In other words, there may be an excess of information that produces unfounded fears, and at the same time, the lack of knowledge is also possible, thus, pertinent measures may not be taken. Finally, in the behavior domain, fears from the three aforementioned dimensions have an impact on behavior; opposing behaviors are triggered, which may produce indecision or action paralysis.

Fear of expressing compassion for self and others predicts greater difficulties in emotional regulation, which increases emotional exhaustion, especially in the context of Covid-19 (Pfeiffer and Macedo, 2021). Moreover, several studies have identified that employees' fear of transmitting COVID-19 to their families, as well as fear of contagion, is associated with moderate levels of emotional fatigue, moderate levels of depersonalization, and low levels of personal fulfillment (Mamani-Benito *et al*., 2022; Terns-Campius and Pedreira-Robles, 2022; Sutta, *et al*., 2021).

Stress

Stress is a psychological, physical, and social integration phenomenon, generated as a response of the body to harmful stimuli (Wu *et al*., 2020). Brooks *et al*., (2020) state that among the stressors associated with the periods of quarantine are duration, fear of infection, frustration, and boredom. Regarding the first one, they state that when pandemics spread, mental health decreases, while post-traumatic stress symptoms, boredom, and avoidance behavior increase. In the same manner, as a consequence of confinement, the loss of daily routines, and the lack of physical and social contact with others, produce boredom, frustration, and feelings of isolation, which lead to stress.

Fear and pandemic stress are associated (Chacón *et al*., 2020; Freckelton, 2020). During this pandemic, stress-producing factors include danger and contamination, fear of the economic consequences, xenophobia, checking obsessive compulsive disorder, and the search for safety (Taylor *et al*., 2020). An aggravating factor of the situation leading to stress is the increasing access to alarming information (Freckelton, 2020). If this condition remains uncertain, a continuous threat, fear may become chronic and overwhelming (Mertens *et al*., 2020).

Burnout

Burnout began to be studied among health care workers. However, this disorder is prevalent in a variety of occupations (such as professors, managers, and administrative personnel, among others) It may appear in any individual, in any work field (education, business, criminal justice, and information technologies, to mention some), with a greater number of cases each day (Awa *et al*., 2010; Morse *et al*., 2012). For some researchers, burnout is a stressful condition associated with employment, and it is even considered a deterioration of mental health caused by work It is even claimed to be very similar to the ICD-10 diagnosis of work-related neurasthenia (Awa *et al*., 2010; Morse, *et al*., 2012).

It is worth mentioning that according to the World Health Organization (2018) mental health is defined as a state of the whole physical, mental, and social wellbeing, and not only the absence of conditions or diseases. According to Tonon (2003), burnout syndrome is characterized by a process that develops within the work environment where employees work, which affects their traits, due to the stress they perceive at work. According to Längle (2003:109), burnout is defined as: "an enduring state of exhaustion due to work."

Gil-Monte and Peiró (2000) define burnout as a process in which cognitive-aptitude (low personal accomplishment or dissatisfaction at work), emotional (emotional exhaustion), and attitudinal (depersonalization) components are involved. It is important to highlight that burnout is the result of continuous exposure to stressful conditions built up by the working environment (Hintsa *et al*., 2016, Melamed *et al*., 2006).

Previous works have identified that a significant association exists between work stressor-generating situations and emotional exhaustion (Valadez et. al., 2019; Peçanha, *et al*., 2018; Rodriguez, *et al*., 2018; Martinez, 2015). Furthermore, it is stated that stressful events are significant predictors of Burnout Syndrome (Martínez *et al*., 2021; Nunes *et al*., 2019).

Readiness for Return-To-Work (RRTW)

The pandemic of Covid-19 has significantly affected the development of economic activities, and the establishment of strict measures during quarantine by the government (Tan, *et al*., 2020) In the case of the export maquiladora industry, some plants established in Mexico continued operations with a minimum number of employees, but most of them were closed. Eventually, those companies returned to operations. Therefore, it is considered important to assess the perception of the personnel of those organizations, regarding whether they feel prepared to return to work.

One of the main concerns for the population is the return to work positions without effective treatment for the disease, or a preventive vaccine (Kim and Su, 2020). Considering the above, employers, employees and the general population are forced to respect the protective measures that health agencies suggest to avoid infections at worksites. However, the uncertainty surrounding Covid-19 has affected the mental health of employees (Peinado and Anderson, 2020).

Most RTW interventions in individuals under sick leave have originated due to musculoskeletal or mental disorders, as well as cancer (Stapelfeldt *et al*., 2019; Aasdahl *et al*., 2018; Armaou *et al*., 2018). According to Yoshinaga and Henrique (2020), Covid-19 represents two threat sources:1) the disease, with its potential for health consequences, and 2) economic impacts: income uncertainty and economic recession. About the latter, the threat and fear of losing a job, the source of income, are highlighted. The uncertainty about the scope of the cancellation of activities has exacerbated the post-crisis scenario with its social and economic consequences (Gustmann *et al*., 2020; Nicolás and Rubio, 2020; Tabares, 2020).

Some recent studies about a return to work during the Covid-19 times have demonstrated that workers' mental health is affected as a consequence of the vulnerability that frightens them. The study carried out by Fitzpatrick *et al*. (2020) with 10,368 American citizens who went back to work demonstrated that 25% of the participants showed high depressive symptoms and high levels of fear of infection. From the reviewed literature the following research model can be established (Figure 1):

Such model allows us to propose the following hypotheses:

H1. Fear of Covid-19 positively and significantly influences burnout.

H2. Fear of Covid-19 negatively and significantly influences the intention to return to work

H3. Fear of Covid-19 positively and significantly influences stress

H4. Stress positively and significantly influences burnout.

H5. Burnout negatively and significantly influences the intention to return to work.

H6. Stress negatively and significantly influences the intention to return to work.

Method

A quantitative, empirical, non-experimental, and cross-sectional research was carried out with a non-probabilistic sampling of employees working in the maquiladora industry, residing in northern Mexico. Initially, the available academic literature was consulted and analyzed to identify the antecedents of the variables measured in this study. Thus, the instrument to be used to collect the data was designed, from previously validated scales. The data collection was carried out during the months of July to September 2020, in the context of the Covid-19 pandemic. To establish sample size, the recommendations of Hair *et al*. (2017) were considered. The maximum number of predictor variables included in the proposed model is 4 (fear of covid19, stress, and burnout syndrome as antecedents of return-to-work intention). For this condition, a total of 158 observations are required if the aim is to detect R^2 values of at least 0.10, with a significance level of 1%, and a statistical power level of 80%. A sample of 333 valid surveys was collected.

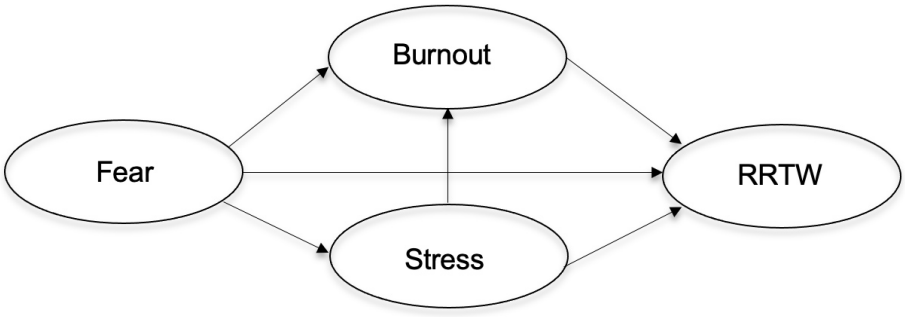

Figure 1. Research model. Source: Prepared by the authors.

Regarding the data analysis, the statistical technique for modeling structural equations based on partial least squares(PLS-SEM) was applied due to its usefulness to explore and predict models, as well as to be implemented mainly for the development of theories that are in early stages of development (Hair *et al*., 2019).

The variables were measured using scales that were adapted to the context. The assessment was developed using Likert-type items featuring five response assignment points, ranging from 1 (does not characterize me) to 5 (very characteristic of me). The variable related to fear of Covid-19 was assessed using 13 items adapted from Snell and Finney's (1998) Multidimensional AIDS Anxiety Questionnaire. Burnout measure was performed through 18 items adapted from Maslach's inventory (2001) which considers 3 dimensions for burnout characterization, fatigue, cynicism, and inefficacy. For the level of stress perceived, 11 items were adapted from Cohen's *et al*. perceived stress scale (1983). Additionally, to assess how ready the workers were to return to work (RRTW), 6 items from Franche *et al*., (2007) were adapted (Table I).

Participants

Concerning participants, 50.3% were men and 49.7% were women. 18.9% pointed out age of less than 25 years old, 43.3% between 25 and 34 years old, 24.4% between 35 and 44 years old, 11.3% between 45 and 54 years old, and only 2.1% were older than 54 years old. Regarding their educational background, the majority had basic education (70.7%). Regarding their marital marital status, 50.3% were single, divorced, or widowed and 49.7% reported being married or in a concubinage.

Results

For the inferential statistical analysis of the data, two steps were followed: in the first one, the psychometric attributes of the measurement model were reviewed (convergence and discriminant validity); in the second one, the structural model was assessed, thus verifying the hypotheses raised in this research.

Assessment of the measurement model

The assessment of the measurement model allows the confirmation of the reliability and validity of the scales used to measure the variables. In the measurement model, burnout was measured as a second-order construct, where the three dimensions of burnout [exhaustion, cynicism, and ineffectiveness] were assessed as reflective constructs, that is, it is a higher-order construct of the Reflective-Formative type, according to Ringle *et al*.'s taxonomy (2012). In the second-order construct specification, the two-stage approach was used, an approach that is susceptible to use with all kinds of higher-order constructs; moreover, this approach prevents problems when other latent predictor variables of the higher-order construct exist in the nomological network (Hair *et al*., 2018). The methodology proposed by Lowry and Gaskin (2014) was followed in the assessment of the resulting model. The statistical software used was Smart PLS 3.

The convergent validity of the measurement model was assessed employing Cronbach's alpha indicator, the composite reliability, average variance extracted (AVE), and the factorial loads (T value, and statistical significance). The values obtained are showed in Table II. Cronbach's alpha indicators and the constructs' composite reliability exceeded in all cases the minimum cut-off point of 0.70 (Bagozzi and Yi, 1988; Fornell and Larcker, 1981; Seidel and Back, 2009). In the same manner, regarding the average variance extracted, all constructs' indicators showed values higher than 0.50 (Martínez and Fierro, 2018). Moreover, these results indicate that factorial loads of the items range between 0.506 (Cv9) and 0.963 (Bo16), and for all cases, t values exceed 1.96. Therefore, it can be stated that the measurement model has convergence validity (Table II).

Discriminant validity

Discriminant validity was established using Fornell Larcker and Heterotrait-Monotrait Ratio criteria (HTMT). Fornell-Larcker criterion indicates that a construct must share a greater variance with its assigned indicators than with those of another latent variable (Hair *et al*., 2011). In this manner, AVE 's square root of each latent variable shall be higher than its correlations with any other construct (Martínez and Fierro, 2018). The diagonal of Table III shows AVE's square root values. Below the diagonal, the values of the correlations between constructs are shown. As can be seen in the table, the values on the diagonal are greater than the correlations between constructs, showing that discriminant validity exists according to this criterion.

Regarding the HTMT ratio, simulation studies performed have demonstrated that the discriminant validity is better detected through this indicator. The criteria is this one: the correlations between the indicators that measure the same construct must exceed the correlations between the indicators that measure different constructs, with a maximum cut-off point of 0.85 (Henseler *et al*., 2015). The results of this indicator are presented in Table IV, and they confirm the existence of this type of validity.

Structural model

The assessment of the structural model was carried out through the revision of the determination coefficients (R^2), the structural paths, and the predictive relevance indicators Q^2. Determination coefficients (R^2). This coefficient determines the prediction quality of the structural model, by calculating the degree in which the model explains the data (Seidel and Back, 2009) It is also explained as the combined effect that exogenous variables have upon endogenous ones (Hair *et al*., 2014). As a rule, for determining its magnitude, it is considered that an R^2 of 0.75 is substantial, an R^2 of 0.50 is moderate, and an R^2 of 0.25 is weak (Hair *et al*., 2014). In the proposed model, there are three endogenous variables: burnout, intention to return to work, and stress. The model explains weakly the intention to return to work (0.166), and moderately the level of stress (0.231) and burnout (0.555).

Structural paths. The path coefficients of a PLS structural model may be interpreted as standardized beta coefficients of regressions of ordinary least squares and their significance is determined through the bootstrapping method if paths lack statistical significance, or show signs contrary to those proposed, there is no support for the hypothesis proposed, however, when those paths are statistically significant, there is evidence that the proposed causal relationship is based on empirical findings (Hair *et al*., 2011).

In the model proposed, four of the structural paths (H1, H3, H4 y H5) coincide in sign with the one previously proposed, and are statistically significant (at a trust level of 95%) The two other paths (H2 and H6) do not comply with the aforementioned; the relationships proposed are therefore rejected. Based on these results , it is possible to affirm that: fear of Covid-19 positively and significantly influences burnout (0.145, t= 3.073); fear of Covid-19 positively and significantly influences stress (0.480, t= 11.113); stress positively and significantly influences burnout (0.664, t= 15.339); and burnout negatively and significantly

TABLE I
ITEMS

Indicator	Item
Bo1	I am emotionally drained
Bo2	I feel frustrated
Bo3	I feel exhausted
Bo4	I am tired when I get up in the morning and I have to go to work
Bo5	I feel tense during the day
Bo6	I have lost enthusiasm for my work
Bo7	I doubt the importance of my work
Bo8	I doubt the value of my work
Bo9	I have lost interest in my work
Bo10	I have become cynical about the importance of my work
Bo11	I've become cynical about the value of my work
Bo12	I feel apathetic about my job
Bo14	Contribute effectively to what my organization does
Bo15	Perform adequately in my position
Bo16	Achieve my work goals
Bo17	Accomplish valuable things in my position
Bo18	Efficiently complete the tasks assigned to me
Cv2	I am afraid of catching COVID19 at work
Cv3	I feel fearful of the consequences of getting sick with COVID
Cv4	I am scared of catching COVID19 from contact with a family member, friend, neighbor, or co-worker.
Cv5	I feel anxious when talking to co-workers about COVID19
Cv6	Covid19 is a very stressful experience for me
Cv7	Anxiety caused by COVID affects or has affected my work performance
Cv8	The anxiety caused by COVID affects or has affected my personal relationships
Cv9	The increased chances of getting infected with COVID leads me to take time off work
Cv10	I am stressed by the increase and speed in the number of COVID19 infections.
Cv11	I am worried that I may have the COVID19 virus
Cv12	I am afraid of spreading covid19 to a friend, family member or neighbor
Cv13	I am afraid of infecting a co-worker with COVID19
Rr1	I felt ready to return to my job
Rr2	I found ways to do my job safely
Rr3	I was trained to properly use the protective equipment in the company
Rr4	I received help from my colleagues to work safely and efficiently
Ep1	I have been upset by unexpected changes in the company (shift changes, downsizing, work overload, shorter working hours, more overtime).
Ep2	I have felt that the important things in my life are getting out of control
Ep3	I felt nervous and stressed
Ep4	I have felt insecure about my ability to handle my personal problems
Ep5	I have felt insecure in handling my problems at work.
Ep6	I feel that there are things that are out of my control
Ep7	I feel that I cannot cope with my commitments or obligations
Ep8	I feel that I am unable to deal with everyday problems
Ep9	I feel like I'm not on top of things
Ep10	I have been angry about things that are out of my control
Ep11	I feel that the difficulties are so great that I cannot overcome them

influence the intention to return to work (-0.395, t= 5.364). There is no empirical evidence to support that fear of Covid-19 negatively and significantly influences the intention to return to work (-0.076, t= 1.223), and that stress influences negatively and significantly the intention to return to work (0.039, t= 0.513), the results above may be observed in Table V.

Indicator Q^2 of Stone Geisser. This indicator values the degree at which the model and its parameters reconstruct the values (Chin, 2010; Henseler *et al*., 2009). There is predictive relevance when the indicators Q^2 are higher than zero. In this manner, the model can predict the reflective (indicators) of the endogenous constructs (Barroso, *et al*., 2010; Chin, 2010). In Table VI below, the values Q^2 of the model are shown. As it may be observed, the indicators meet the criteria above. To conclude, the contrasted model is presented (Figure 2). In the model, the values path of the structural relationships, and the respective R^2 values are shown.

TABLE II
CONVERGENT VALIDITY

Latent variable	Dimension	Indicator	Load >.500	Indicator's t value	Cronbach's alpha	Composite reliability	AVE
Burnout	Exhaustion	Bo1	0.878	52.779	0.927	0.945	0.775
		Bo2	0.888	58.715			
		Bo3	0.912	61.786			
		Bo4	0.851	41.236			
		Bo5	0.873	50.333			
	Cynicism	Bo6	0.870	46.083	0.954	0.962	0.784
		Bo7	0.879	51.895			
		Bo8	0.877	42.529			
		Bo9	0.922	76.811			
		Bo10	0.874	43.320			
		Bo11	0.883	47.132			
		Bo12	0.892	44.430			
	Inefficacy	Bo14	0.865	2.025	0.968	0.974	0.883
		Bo15	0.961	2.243			
		Bo16	0.963	2.293			
		Bo17	0.956	2.230			
		Bo18	0.950	2.279			
Fear		Cv2	0.718	20.917	0.920	0.931	0.532
		Cv3	0.774	27.135			
		Cv4	0.768	26.625			
		Cv5	0.717	24.909			
		Cv6	0.746	27.800			
		Cv7	0.693	26.779			
		Cv8	0.737	34.224			
		Cv9	0.506	11.986			
		Cv10	0.779	31.424			
		Cv11	0.804	37.933			
		Cv12	0.750	25.846			
		Cv13	0.720	19.267			
RRTW		Rr1	0.797	25.375	0.826	0.884	0.656
		Rr2	0.826	30.185			
		Rr3	0.790	25.130			
		Rr4	0.826	35.523			
Stress		Ep1	0.524	10.810	0.951	0.958	0.680
		Ep2	0.837	37.859			
		Ep3	0.835	41.155			
		Ep4	0.884	52.469			
		Ep5	0.862	45.699			
		Ep6	0.850	42.472			
		Ep7	0.847	38.625			
		Ep8	0.853	32.033			
		Ep9	0.838	34.633			
		Ep10	0.840	44.951			
		Ep11	0.838	41.595			

Source: prepared by the authors with processed data in SmartPLS v3.

Discussion

Few studies in Latin America assess psychosocial aspects in times of epidemics (Monterrosa-Castro *et al*., 2020). In this sense, this research work is relevant, since it is one of the first to address aspects of occupational health in employees of the industrial sector in northern Mexico, precisely in times of epidemic. This study sought to identify whether fear of Covid-19 affects stress, burnout, and readiness to return to work among Mexican employees working in industrial plants known as maquiladoras. The results obtained indicate that fear of Covid-19 directly, positively, and significantly affects burnout and stress. In the

TABLE III
FORNELL-LARCKER CRITERION

	Exhaustion	Cynicism	Inefficacy	Fear	RRTW	Stress
Exhaustion	0.880					
Cynicism	0.654	0.885				
Inefficacy	0.034	0.068	0.940			
Fear	0.521	0.358	-0.024	0.730		
RRTW	-0.309	-0.392	-0.216	-0.241	0.810	
Stress	0.721	0.639	-0.028	0.480	-0.288	0.824

Source: prepared by the authors with processed data in SmartPLS v3.

TABLE IV
RATIO HTMT

	Exhaustion	Cynicism	Inefficacy	Fear	RRTW	Stress
Exhaustion						
Cynicism	0.692					
Inefficacy	0.046	0.064				
Fear	0.527	0.355	0.056			
RRTW	0.349	0.439	0.244	0.253		
Stress	0.766	0.673	0.047	0.471	0.320	

Source: prepared by the authors with processed data in SmartPLS v3.

TABLE V
STRUCTURAL RELATIONSHIPS PROPOSED IN THE MODEL

Hypothesis	Path	T Value	Results
H1. Fear of COVID19 positively and significantly influences burnout.	0.145	3.073	Validated
H2. Fear of COVID19 negatively and significantly influences the intention to return to work.	-0.076	1.223	Not validated
H3. Fear of COVID19 positively and significantly influences stress.	0.480	11.113	Validated
H4. Stress positively and significantly influences burnout.	0.664	15.339	Validated
H5. Burnout negatively and significantly influences the intention to return to work.	-0.395	5.364	Validated
H6. Stress negatively and significantly influences the intention to return to work.	0.039	0.513	Not validated

Source: prepared by the authors, from results of Smart PLS.

TABLE VI
Q^2 INDICATORS OF THE ENDOGENOUS CONSTRUCTS IN THE MODEL

	Sum of squares of prediction error (SSO)	Sum of the square of error using the mean for prediction (SSE)	Cross-validation of construct redundancy
Burnout	333.000	150.860	0.547
Intention to return to work	333.000	280.634	0.157
Stress	333.000	260.557	0.217

Source: prepared by the authors, from results of Smart PLS.

environment studied, fear of Covid-19 reflects mainly in the concern of becoming infected, fear of the consequences associated with an infection of Covid-19, and the concern of infection for being in contact with family members, friends, neighbors, or co-workers. This uncertainty may increase dysphoric mental states (Ornell *et al*., 2020; Islam, 2020). Similarly, Monterrosa-Castro *et al*. (2020) state that this fear enhances workers' anxiety related to infection or even death.

Based on the results of this research, it was identified that fear of Covid-19 generates stress, which is noticeable to a greater extent in the insecurity that the worker feels about their ability to handle their personal and work problems, and in their perception of inability to deal with everyday problems. Faced with this situation, Martínez (2020) explains that, when the stressing stimulus persists, in this case, the threatening active presence of the virus, stress is experienced as a permanent state, the organism is not able to recover, and in high and continuous doses, it becomes a state that is highly harmful to their health.

Additionally, the results also indicate that both fears of Covid-19 and stress generate burnout, which is manifested mainly in workers by the feeling of being unable to achieve their work objectives (productivity goals), performing adequately (without generating scrap and

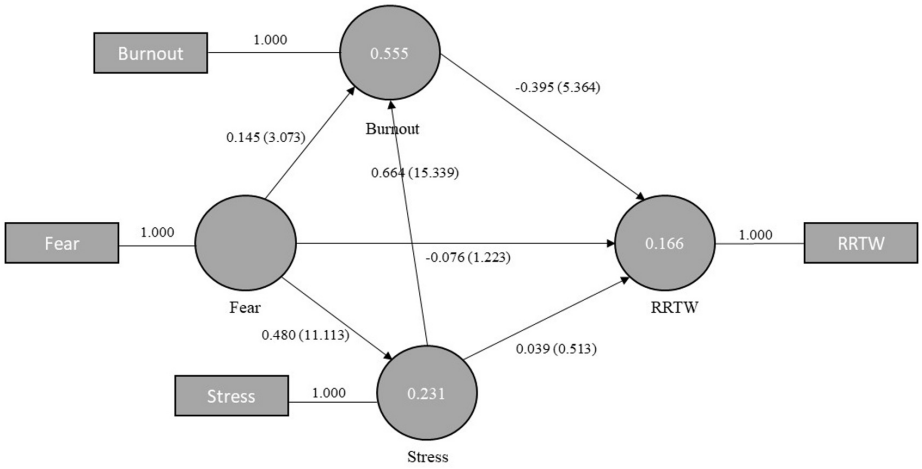

Figure 2. Contrasted model. Source: Smart PLS.

non-conformities), and achieving valuable results in their position. In this sense, Maquiladora plants should implement intervention programs to address and prevent stress and burnout problems among their workers. The above is based on the benefits provided by these types of programs, both in terms of burnout and mental health, since the employees of the organizations that implement those programs report lower levels of burnout in workers, compared to those who work in companies that lack this kind of measures (Awa *et al*., 2010).

Our findings show that burnout negatively and significantly affects the readiness to return to work, which coincides with approaches available in the literature (Gustmann *et al*., 2020; Muñoz *et al*., 2020; Gallardo *et al*., 2019). Concerning the hypothesis of whether fear of Covid-19 negatively and significantly affects the intention to return to work, it is quite interesting that it was not validated This may be a result of the structural vulnerability of the Mexican economy (Landa *et al*., 2020) and the contraction in permanent and temporary manufacturing employment recently experienced in the country's industry (Torres, 2020). It seems that the uncertainty of the economy has a greater impact on the maquila workers than the fear of infection. This scenario resembles that described by Gustmann *et al*. (2020), Lugo *et al*. (2020), and Yoshinaga and Henrique (2020): facing the threat and fear of employers of not being able to guarantee jobs and income in various organizations, the uncertainty about the social and economic consequences exacerbate concerns about the post-crisis scenario.

It is suggested that the Mexican Ministry of Labor and Social Welfare, as well as the maquiladora companies organized by Index (name of the union of this type of companies), value the occupational health of their workers, since in the studied group it was found that stress favors the development of burnout caused by the pandemic of Covid-19, a situation that can generate negative impacts on worker health and performance, given that the pandemic has spread over time and it is still unknown when it will end.

Conclusions

One of the strengths of this study is that it is one of the first to address occupational health aspects of operative personnel (workers) of the maquiladora industry in times of epidemic. The results allow us to infer that the pandemic is an event that affects the occupational health of the maquila workers, and it represents new risks in the performance of work, due to workers' exposure. This situation generates fear, stress, burnout, and finally affects the readiness to return to work, with its subsequent effects in terms of performance.

As it has been shown that occupational health is being affected by the pandemic a fact that makes it necessary to establish programs and measures aiming at promoting the workers' wellbeing For example, emphasizing that communication processes are effective to provide certainty, minimize negative impacts, and favor the worker's mental health. Moreover, through a company–university outreach, for instance, channels of psychological assistance may be opened. Since the pandemic has not yet ended, it becomes a persistent stressing element, which in turn causes chronic fatigue and/or latent irritability syndrome, as well as an increase in turnover.

This study has certain limitations. Considering that the data collection was carried out through an online survey, there is potential selection bias due to non-probability sampling Therefore, the findings are not generalizable to the general population. However, given the consequence of our results, the data reported should be considered as part of the rapid evidence generated in the evolving context of the pandemic of Covid-19. Regarding the measurement model, it is important to point out that some constructs exceeded the recommended maximum cut-off point of 0.95 for Cronbach's alpha and the composite reliability index. This could be generated as a consequence of a possible redundancy in the measurement, but in this analysis, it was decided to maintain this measurement model to avoid damaging construct validity.

It is recommended that this work be replicated in other contexts and sectors. We believe that it is possible to advance in knowledge, by studying the proposed relationships in sectors that did not stop working, as they are considered essential. It is probable that, in that environment, the effects of fear of Covid-19 be higher. In the same manner, it may be useful to inquire into the possible effects of fear in school communities; in such case, it is possible that fear of Covid-19 has got effects not only in the short, but in the medium, and long term, due to the high degree of existing social contact. Also, future studies could explore mediating effects of stress and burnout syndrome, on the relationship between fear of covid and the intention to return to work. On the other hand, the pandemic situation led many people to work from home This condition can also be a factor that triggers burnout and generates, or increases work-family conflicts and is worth being studied. This may be an incipient line of research since everything indicates that remote working is here to stay.

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EFECTOS EN LA SALUD MENTAL DE LOS TRABAJADORES QUE REGRESAN AL TRABAJO DURANTE LA PANDEMIA DE COVID-19. UN ANÁLISIS DE LA INDUSTRIA MAQUILADORA EN EL NORTE DE MÉXICO

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RESUMEN

El objetivo de esta investigación es analizar los efectos psicológicos causados por el Covid-19 en la preparación de los trabajadores para volver al trabajo durante la pandemia. Se diseñó un estudio transversal que exploró la percepción de miedo, estrés laboral y burnout en una muestra de 333 trabajadores pertenecientes a la industria maquiladora del norte de México. Las percepciones se recogieron mediante una encuesta de escala Likert de 5 puntos basada en escalas previamente validadas. La técnica estadística utilizada fue el modelo de ecuaciones estructurales (PLS-SEM). Los resultados obtenidos reflejan que el miedo al Covid-19 influye directamente en la presencia de estrés y burnout *en los trabajadores. Se demostró que el* burnout *influye negativa y significativamente en la intención de volver al trabajo, sin embargo, no se encontró evidencia que acredite el efecto negativo del miedo al Covid-19 en la vuelta al trabajo. Se concluye que la pandemia es un evento que afecta la salud ocupacional de los trabajadores de la maquila, y representa nuevos riesgos en el desempeño del trabajo por exposición de los trabajadores. Esta situación genera miedo, estrés y* burnout*, lo que finalmente afecta la preparación para el regreso al trabajo, con sus consecuentes efectos en términos de desempeño.*

EFEITOS NA SAÚDE MENTAL DOS TRABALHADORES QUE RETORNAM AO TRABALHO DURANTE A PANDEMIA DA COVID-19. UMA ANÁLISE DA INDÚSTRIA MAQUILADORA NO NORTE DO MÉXICO

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RESUMO

O objetivo desta pesquisa é analisar os efeitos psicológicos causados pela Covid-19 na preparação dos trabalhadores para voltar ao trabalho durante a pandemia. Desenhou-se um estudo transversal que explorou a percepção de medo, estresse no trabalho e burnout em uma amostra de 333 trabalhadores pertencentes à indústria maquiladora no norte do México. As percepções foram coletadas mediante uma enquete de escala Likert de 5 pontos baseada em escalas previamente validadas. A técnica estatística utilizada foi a modelagem de equações estruturais (PLS-SEM). Os resultados obtidos mostram que o medo à Covid-19 influi diretamente na presença de estresse e burnout nos trabalhadores. Foi demonstrado que o burnout influencia de maneira negativa e significativa na intenção de retornar ao trabalho, no entanto, não foram encontradas evidência que validem o efeito negativo do medo à Covid-19 no retorno ao trabalho. Concluímos que a pandemia é um evento que afeta a saúde ocupacional dos trabalhadores da maquila, e representa novos riscos do desempenho no trabalho devido à exposição dos trabalhadores. Esta situação gera medo, estresse e burnout, que finalmente afeta a preparação para o retorno ao trabalho, com seus consequentes efeitos em relação ao desempenho.